COLORADO WATER CONSERVATION BOARD
COOPERATING TECHNICAL PARTNERS
MAPPING ACTIVITY STATEMENT

Mapping Activity Statement No. 17 – Initial Pre-Scoping Activities for Archuleta, Lake, Mineral, Park, San Miguel, and Summit Counties

In accordance with the Cooperating Technical Partners (CTP) Partnership Agreement dated July 15, 2002, between the Colorado Water Conservation Board (CWCB) and the Federal Emergency Management Agency (FEMA), Mapping Activity Statement (MAS) No. 17 is as follows.

Section 1: Objective and Scope

Initial pre-scoping and scoping activities will be conducted in the following six counties: Archuleta, Lake, Mineral, Park, San Miguel, and Summit. The activities will include research and initial identification of scopes of work for expected countywide projects to convert each county's Flood Insurance Rate Maps (FIRM) into a Digital Flood Insurance Rate Map (DFIRM) and perform limited restudy activities in future federal fiscal years. This MAS describes general procedures that will be used for initial pre-scoping and scoping activities. The CWCB is responsible for all efforts. The schedule is expected to start in October 1, 2005 and scoping, including population of the Scoping Tool, will be completed by September 30, 2006.

The initial pre-scoping and scoping efforts in each county, as described below in Activities 1, 2 and 17 will include collecting data from a variety of sources including community surveys, other Federal and State Agencies, NFIP State Coordinators, Community Assistance Visits (CAVs) and FEMA archives. The CWCB will evaluate the effective FIS report and FIRM maps in coordination with local community officials and stakeholders to determine the need for updates to flood hazard data in the communities. Lists of mapping needs will also be obtained form the MNUSS database, community surveys and CAV's if available. The CWCB will lead the effort to contact and coordinate with the communities in pre-scoping and will be responsible for efforts related to existing data collection and the populating the Scoping Tool.

The following will complete this Flood Map Project:

- CWCB and
- PBS&J, Anderson Consulting Engineers, and/or AMEC.

Products identified in the activities of this MAS and outlined in the G&S shall be uploaded to the Mapping Information Platform (MIP).

The CTP shall notify FEMA and the NSP by e-mail of all meetings with community officials at least one week prior to the meeting. FEMA and/or the NSP may or may not attend the community meetings.

The activities for this Flood Map Project, including required Quality Assurance/Quality Control (QA/QC) reviews, and the Mapping Partners that will complete them are summarized in Table 1-2. Specifically, this MAS consists of Activities 1 – Pre-Scoping, Activity 2, and Activity 17 - Outreach. Activities 3-16 are not applicable to this MAS.

All activities that are to be accomplished by CWCB or contractors to CWCB, including contractors that may be selected after the project startup, are included in the "CTP" column. All activities that are to be accomplished by FEMA or FEMA's NSP are included in the FEMA/NSP column. The sections of this MAS that follow Table 1-2 describe the specific activities, responsible Mapping Partner(s), FEMA standards that must be met, and resultant map components.

Compliance with Floodplain Boundary Data Quality Standards: The data quality standards documented in Section 7 of the Multi-Year Flood Hazard Identification Plan (MHIP) for Fiscal Year 2004-2008 (Version 1, November 2004) should be used as the basis for producing DFIRMs. The MIP utilities available at the time of study submittals should be run to verify compliance with these data quality standards. Compliance with these standards will help FEMA achieve a Map Modernization goal of providing a reliable, web-based national flood layer in digital GIS format.

The floodplain boundary data quality standards outlined in Table 7-1 of the MHIP should be followed in addition to existing standards specified for floodplain mapping in the Guidelines, including Volume I, Section 1.4 and Appendices C, D, E, F, G, H, K, L, M, and N. Table 7-1 shall be applied to all approximate, existing detailed and new detailed studies for riverine and coastal flooding sources.

Table 1-2. Summary of Project Activities and Assignments

Activities	CTP	FEMA /NSP
Activity 1: Pre-Scoping	X	--
Activity 2: Scoping	--	--
Activity 3: Field Surveys and Reconnaissance	--	--
Activity 4: Topographic Data Development	--	--
Activity 5: Independent QA/QC Review of Topographic Data	--	--
Activity 6: Hydrologic Analyses	--	--
Activity 7: Independent QA/QC Review of Hydrologic Analyses	--	--
Activity 8: Hydraulic Analyses	--	--
Activity 9: Independent QA/QC Review of Hydraulic Analyses	--	--
Activity 10: Floodplain Mapping (Detailed Riverine or Coastal Analysis)	--	--
Activity 10A: Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	--	--
Activity 10B: Floodplain Mapping (Refinement or Creation of Zone A)	--	--
Activity 11: Independent QA/QC Review of Floodplain Mapping (Revised Areas)	--	--
Activity 12: Base Map Acquisition	--	--
Activity 13: DFIRM Production (Non-Revised Areas)	--	--
Activity 13A: Independent QA/QC Review of DFIRM Production (Non-Revised Areas)	--	--
Activity 14: DFIRM Production (Merging Revised and Non-Revised Information)	--	--
Activity 14A: DFIRM Production (Application of FEMA Graphics and Database Specifications)	--	--
Activity 14B: Independent QA/QC Review of DFIRM Product Meeting FEMA Graphics and Database Specifications	--	--
Activity 15: Preliminary DFIRM and FIS Report Distribution	--	--
Activity 16: Post-Preliminary Processing	--	--
Activity 17: Outreach	X	--

FEMA has developed tools to assist in the development of the flood hazard data studies and the Digital Flood Insurance Rate Maps (DFIRMs). FEMA will, through the NSP, provide all CTPs access to and training in these tools. The use of these tools will assist in the Map Modernization effort and the efficiency of mapping partners.

If the CTP chooses not to use these production tools, then the CTP will be required to submit project data at major milestones in each Mapping Project in accordance with data capture standards. Submitting data in these standards will aid in more efficient quality control reviews, data storage, archiving, and for future study updates.

The Data Capture Specifications submittals will be required at the following study milestones:

- Project Scoping (as specified);
- Terrain Data Processing Completed;
- Field Survey Completed;
- Hydrology Completed (draft and final);
- Hydraulics Completed (draft and final); and
- DFIRM Mapping (draft and preliminary).

CTPs performing scoping activities will be required to submit scoping-related data in accordance with the data capture standards.

QA/QC review activities may be performed by CTPs or the NSP at the discretion of FEMA. Please note the NSP will also be performing periodic audits and overall study/project management to monitor study quality.

FEMA will be providing download/upload capability for data capture submittals through the MIP. Data submittals uploaded via the MIP will include the same data required prior to the existence of the MIP.

Activity 1 – Pre-Scoping

Responsible Mapping Partner: CWCB

Scope: Pre-Scoping or Mapping Needs Assessment forms the building block for the Scoping Phase. This task involves collecting data from a variety of sources including community surveys, other Federal and State Agencies, NFIP State Coordinators, Community Assistance Visits (CAVs) and FEMA archives. CWCB will collect and compile are such data and evaluate the effective FIS report and FIRM maps to see if they need to be updated. CWCB will compile lists of mapping needs from the MNUSS database, community surveys, the Scoping Tool, and CAVs if available.

Data collection will include obtaining the best available base map materials (e.g., corporate limits, roads, orthophotos) along with stream centerline files. The acquired data will be imported into the Scoping

Tool. The CWCB will lead the effort to contact and coordinate with the communities and be responsible for efforts related to existing data collection and the Scoping Tool.

Standards: All work under Activity 1 shall be performed in accordance with the standards specified in Section 5 of this MAS.

Deliverables: CWCB shall make the following products available to FEMA:

- A Pre-Scoping Report including all data compiled from the described research.

Information on the Scoping Tool can be downloaded from
http://www.hazards.gov/resources/scoping.htm.

Activity 2 – Scoping

The Scoping Activity has been broken down into 22 tasks to approximately correspond with the *Guidelines and Specifications for Flood Hazard Mapping Partners* as listed in the table below. Efforts associated with the tasks identified below are noted and may be necessary in order to complete activities included under Activity 2.

Scoping Tasks			
TAS	TITLE	TASK	TITLE
1	Project Management Team Participation	12	Scoping Meeting Activities
2	Initial Community Contact	13	Mapping Needs List Prioritization and Finalization
3	Preliminary Project Management Plan	14	Refinement of Draft Scope of Project
4	Initial Project Team Conference Call	15	Assignment of Project Team Member Tasks
5	Project Team Formation	16	Community Partnership Agreements
6	Preliminary Research Activities	17	Scoping Meeting Documentation
7	Potential Obstacles	18	Statement of Work or Mapping Activity Statement
8	Draft Project Scope	19	Time and Cost Estimate Preparation
9	Draft Project Scope Conference Call	20	Finalization of Project Management Plan
10	Revised Draft Project Scope	21	MNUSS Database or It's Successor
11	Distribution of Background Information	22	Outreach Coordination & Consultation

Responsible Mapping Partner: CWCB

Scope: The coordination protocol and general management objectives of the entire project will be addressed in the State's Business Case Plan, which will be updated regularly. This plan identifies the general Project, Project Team, the lines and protocols of communication between the communities and the Team members, protocols for internal flow of information among the members of the Team, the project objectives, general milestones of the Flood Map Project, QA/QC review requirements, record keeping, and project completion goals. The CWCB will communicate this information to Project Team members on an ongoing basis, and will provide additional documentation as needed.

CWCB shall lead coordination and outreach with local officials by contacting the local officials and the State NFIP Coordinator and inform them that their community has been selected for a possible study. They shall also work with FEMA and local officials to inform the community and request information through meetings and other consultation activities.

Preliminary Research Activities can be separated into two categories—researching effective information and researching available data for the Flood Map Project. The following tasks shall be completed to research effective information: conduct a thorough Mapping Needs Assessment (unless one has already been conducted); inventory the FEMA archives for effective FIRM panels, FIRM panels, FIS reports, and other flood hazard data or existing study data, including data for adjacent counties including those located within states that border Colorado; summarize the information in the MNUSS database; summarize contiguous community agreement checks; review CAV and CAC files; and develop a "scoping map" and an overview of the results of the research.

The following tasks shall be completed to research available data for Flood Map Project: identify available base map information; identify available topographic data; identify available flood hazard data; and identify other available hydrologic and hydraulic information and data.

In cooperation with the FEMA Region, a Project Management Team will be established consisting of the CWCB, FEMA's Regional Engineer, the respective county representative, and other appropriate officials. The appropriate county and community representatives will be contacted and notified them that FEMA and the CWCB have selected them for a map update, inform them of the project process and scope, and involve them in developing the project scope.

Initial coordination will take place with the Project Management Team members and the appropriate representatives of the county and communities listed in Section 1. The communities will be asked to provide input for its assessment of the flood mapping needs, available data for base maps, any existing studies or ongoing projects that may have an influence on flood mapping, the community's potential as a CTP, and the involvement of other regional or state agencies that may have an input for the map development process.

The CWCB will facilitate a Scoping Meeting, including providing an agenda and materials relevant to educating and promoting discussion and identification of prioritized mapping needs. CWCB will develop a first draft of the identified mapping needs of the county and communities (listed in Section 1) and a first draft cost estimate for the highest priority areas that are likely to be included in the project scope. The county and communities (as listed in Section 1) will be contacted and given the opportunity to sign a Memorandum of Agreement (MOA).

The Project Management Team shall explore potential obstacles to successful project completion on an ongoing basis. If potential obstacles are identified that could halt or significantly hinder the completion of the project, the Project Management Team shall evaluate all possible alternatives and develop an appropriate course of action as soon as practicable. When identified, the issue will be communicated to the Project Team by CWCB, who will also initiate discussion toward resolution of the issue.

CWCB shall update the MNUSS database to indicate that the needs included in the SOW or MAS are being addressed in an ongoing Flood Map Project. They shall also update the MNUSS database to add any new needs or revise existing needs identified during the scoping activities that will not be addressed by the current project. Additionally, they shall flag the needs that could not be verified during the research and community coordination activities as "not verified."

Deliverables:

- CWCB will provide a document listing the project management team along with their full contact information.
- CWCB will update the Scoping Tool files to include the project management team and contact information.
- CWCB will document and provide notes on community information and contact.
- An Available Data Inventory digital document.
- Signed Community Partner MOAs.
- Scoping Meeting documents including attendees sign-in list, scoping meeting minutes, and the first draft of priority needs for the communities, including draft cost estimates.
- Email from the MNUSS administrator stating that the MNUSS update was successful.

The following, Activities 3 through 16, are listed but not being performed as part of this MAS.

Activity 3 - Field Surveys and Reconnaissance

Activity 4 - Topographic Data Development

Activity 5 - Independent QA/QC Review of Topographic Data

Activity 6 – Hydrologic Analyses

Activity 7 - Independent QA/QC Review of Hydrologic Analyses

Activity 8 – Hydraulic Analyses

Activity 9 - Independent QA/QC Review of Hydraulic Analyses

Activity 10 - Floodplain Mapping (Detailed Riverine Analysis)

Activity 10A - Floodplain Mapping (Redelineation of Detailed Floodplain Boundaries Using Updated Topographic Data)

Activity 10B - Floodplain Mapping (Refinement or Creation of Zone A)

Activity 11 - Independent QA/QC Review of Floodplain Mapping (Revised Areas)

Activity 12 - Base Map Acquisition

Activity 13 – DFIRM Production (Non-Revised Areas)

Activity 13A – Independent QA/QC Review of DFIRM Production (Non-Revised Areas)

Activity 14 – DFIRM Production (Merging Revised and Non-Revised Information)

Activity 14A – DFIRM Production (Application of FEMA Graphics and Database Specifications)

Activity 14B – Independent QA/QC Review of DFIRM Product Meeting FEMA Graphics and Database Specifications

Activity 15 - Preliminary DFIRM and FIS Report Distribution

Activity 16 - Post-Preliminary Processing

Activity 17—Outreach

Task 17 – Outreach and Coordination

Responsible Entity: CWCB

Scope: The outreach activities for a Flood Map Project can best be understood as a process that begins during the Project Scoping phase and continues through the Map Production and Post-preliminary phases. A regulatory overview of required activities is followed by a description of tools that can be used in working with stakeholders to keep them informed and to solicit their input.

The overarching goal for conducting outreach is to create a climate of understanding and ownership of the mapping process at the State and local levels. Well-planned outreach activities can reduce political stress, confrontation in the media, and public controversy, which can arise from lack of information, misunderstanding, or misinformation. These outreach activities also can assist FEMA and other members of the Project Team in responding to congressional inquiries.

By proactively reaching out to all key stakeholders as early in the Flood Map Project as possible, the maps can be used to their full potential. The likelihood of appeals may also be reduced or eliminated. Specific responsible Mapping Partner activities shall include, but are not limited to:

- Establishing two-way communication to address the needs of, inform and obtain feedback from, the stakeholders;
- Ensuring compliance with due process requirements;
- Interacting with technical representatives to ensure production of accurate and up-to-date maps;
- Enhancing ownership by communities; and
- Tracking, monitoring, and evaluating outreach activities and adjusting efforts according to ongoing feedback and evolving project needs.

Standards: All work conducted under this task shall conform to the standards specified for this task in Section 5, "Applicable Standards" of this MAS. In the event of any contradictions between the MAS and the standards, the standards shall control.

Deliverables: Upon Completion of Outreach and Coordination the responsible Mapping Partner shall deliver the following to the FEMA Regional Project Officer in accordance with the delivery dates specified in task orders:

- Documentation detailing the outreach and coordination activities; and
- Backup or supplemental information used in writing this report.

SECTION 2—Technical and Administrative Support Data Submittals and special problem reports

The Project Team members for this Flood Map Project that have responsibilities for activities included in this MAS shall comply with the data submittal requirements summarized below.

All supporting documentation for the activities in this MAS shall be submitted in the TSDN format in accordance with Appendix M of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners*, dated April 2003. Appendix M is available for viewing or download on the FEMA Web site at http://www.fema.gov/pdf/fhm/frm_gsam.pdf. Table 2-1 indicates the sections of the TSDN that apply to each mapping activity.

Table 2-1. Mapping Activities and Applicable TSDN Sections

TSDN Section	Mapping Activities															
	1	2	3	4	5	6, 6 A	7, 7 A	8	9	10, 10 A, 10 B	11	12	13, 13 A	14, 14 A	15	16
General Documentation																

Special Problem Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Telephone Conversation Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Meeting Minutes/Reports	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
General Correspondence	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Engineering Analyses																
Hydrologic Analyses			X			X	X	X	X	X	X					
Hydraulic Analyses			X			X	X	X	X	X	X					
Key to Cross-Section Labeling			X			X	X	X	X	X	X					
Key to Transect Labeling			X			X	X	X	X	X	X					
Draft FIS Report						X	X	X	X							
Mapping Information	X	X		X	X					X	X	X	X	X	X	X
Miscellaneous Reference Information	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

If any issues arise that could affect the completion of an activity within the proposed scope or budget, the responsible Mapping Partner shall complete a Special Problem Report (SPR) as soon as possible after the issue is identified and submitted to FEMA. The SPR is to describe the issue and propose possible resolutions. (For additional information on SPRs, refer to Appendix M, Subsection M.2.1.1 of *Guidelines and Specifications for Flood Hazard Mapping Partners*.)

Additionally, the NSP shall collect and maintain a set of products for all Activities and shall compile a comprehensive TSDN for the entire project.

Section 3—Period of Performance

The mapping activities documented in this MAS will begin on September 1, 2005, and will be completed no later than September 30, 2006. The mapping activities may be terminated at the option of FEMA or CWCB in accordance with the provisions of the Partnership Agreement dated July 15, 2002.

Section 4—Funding/Cost-Sharing

FEMA is providing funding, in the amount of , to CWCB for the completion of the Flood Map Project documented in this MAS. CWCB shall provide any additional resources required to complete the assigned activities for this Flood Map Project.

Section 5—Standards

The standards relevant to this MAS are provided in Tables 5-1 and 5-2. Information on the correct volume, appendix, section, or subsection of the FEMA *Guidelines and Specifications for Flood Hazard Mapping Partners* to be referenced for each mapping activity are summarized in Table 5-2. These Guidelines are available for viewing or download from the FEMA Flood Hazard Mapping Web site at http://www.fema.gov/fhm/dl_cgs.shtm.

In addition, Data Capture Standards referenced in the previous sections are to be applied to the project for the data formats to be submitted to FEMA.

Table 5-1. Applicable Standards for Project Activities

Applicable Standards	Activities															
	1	2	3	4	5	6, 6A	7, 7A	8	9	10, 10A, 10B	11	12	13, 13A	14, 14A	15	16
Guidelines and Specifications for Flood Hazard Mapping Partners, April 2003	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
American Congress on Surveying and Mapping Procedures	X	X	X	X	X											
Global Positioning System (GPS) Surveys: National Geodetic Survey (NGS-510), "Guidelines for Establishing GPS-Derived Ellipsoid Heights," November 1997	X	X	X	X	X											
Engineer Manual 1110-1-1000, *Photogrammetric Mapping* (USACE), July 1, 2002	X	X	X	X	X											
Engineer Manual 1110-2-1003, *Hydrographic Surveys* (USACE), January 1, 2002	X	X	X													
"Numerical Models Accepted by FEMA for NFIP Usage," Updated April 2003	X	X				X	X	X	X							
Content Standard for Digital Geospatial Metadata (Federal Geographic Data Committee), 1998	X	X		X	X					X	X	X	X	X	X	X
Document Control Procedures Manual, December 2000	X	X													X	X

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
1	Pre-Scoping	Volume 1, and Appendix I
2	Scoping	Volume 1, and Appendix I
3	Field Surveys and Reconnaissance	Volume 1, Section 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.4, A.5, A.6, A.7, and A.8 Appendix F, Section F.3 Appendices B, C, M, and N
4	Topographic Data Development	Volume 1, Section 1.4 (specifically Subsection 1.4.2.1) Appendix A, Sections A.2 , A.3, A.7, and A.8 Appendix M and N
5	Independent QA/QC Review of Topographic Data	Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.1) Appendix A, Sections A.2, A.3, A.7 (specifically Subsection A.7.5), and A.8 (specifically Subsection A.8.6) Appendix M
6	Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4) Appendix A, Section A.4 Appendix C, Sections C.1 and C.7 Appendices E, F, G, H, M, and N
6A	Coastal Hazard Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.2.2) Appendix A, Section A.4 Appendices B, D, M, and N

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications (Cont'd)

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
7	Independent QA/QC Review of Hydrologic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1)
		Appendix A, Section A.4
		Appendix C, Section C.2
		Appendices E, F, G, H, and M
7A	Independent QA/QC Review of Coastal Hazard Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1)
		Appendix A, Section A.4
		Appendices B, D, and M
8	Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.4)
		Appendix A, Section A.4 (specifically Subsection A.4.7)
		Appendix C, Sections C.3 and C.7
		Appendices B, E, F, G, H, M, and N
9	Independent QA/QC Review of Hydraulic Analyses	Volume 1, Section 1.4 (specifically Subsection 1.4.1)
		Appendix A, Section A.4 (specifically Subsection A.4.7)
		Appendix C, Section C.5
		Appendices B, E, F, G, H, and M
10	Floodplain Mapping (Detailed Riverine or Coastal Analysis)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3)
		Appendix C, Sections C. 4 and C.6
		Appendix D, Sections D.2 (specifically Subsection D.2.7) and D.3 (specifically Subsection D.3.7)
		Appendices E, F, G, H, K, L, M, and N

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications (Cont'd)

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
10A	Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2 and 1.4.2.3)
		Appendix C, Section C.6 (specifically Subsection C.6.1.3)
		Appendices K. L, M, and N
10B	Floodplain Mapping (Refinement or Creation of Zone A)	Volume 1, Section 1.4 (specifically Subsection 1.4.2.3)
		Appendix C, Sections C.4 and C.6
		Appendices K, L, and M
11	Independent QA/QC Review of Floodplain Mapping (Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.1 and 1.4.2.3)
		Appendix C, Sections C.4 and C.6
		Appendix D, Sections D.2 (specifically Subsection D.2.7) and D.3 (specifically Subsection D.3.7)
		Appendices E, F, G, H, K, L, and M
12	Base Map Acquisition and Preparation	Volume 1, Section 1.3 (specifically Subsection 1.3.1.8) and 1.4 (specifically Subsections 1.4.3.1 and 1.4.3.2)
		Appendix A, Section A.1 (specifically Subsection A.1.1)
13	DFIRM Production (Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2, 1.4.2.3, and 1.4.3.2)
		Appendices K, L, and M
13A	Independent QA/QC Review of DFIRM Production (Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.2, 1.4.2.3, and 1.4.3.2)
		Appendices K, L, and M

Table 5-2. Project Activities and Applicable Portions of FEMA Guidelines and Specifications (Cont'd)

Activity Number	Activity Description	Applicable Volume, Section/Subsection, and Appendix
14	DFIRM Production (Merging Revised and Non-Revised Areas)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3 and 1.4.3.3)
		Appendices K, L, and M
14A	DFIRM Production (Application of FEMA Graphics and Database Specifications)	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3, 1.4.3.3, 1.4.3.9, and 1.4.3.10)
		Appendices K, L, and M
14B	Independent QA/QC Review of DFIRM Product Meeting FEMA Graphics and Database Specifications	Volume 1, Section 1.4 (specifically Subsections 1.4.2.3, 1.4.3.3, 1.4.3.9, and 1.4.3.10)
		Appendices K, L, M, and N
15	Preliminary DFIRM and FIS Report Distribution	Volume 1, Sections 1.4 (specifically Subsections 1.4.2 and 1.4.3) and 1.5 (specifically Subsection 1.5.1)
		Appendices J, K, L, and M
16	Post-Preliminary Processing	Volume 1, Section 1.5 (specifically Subsection 1.5.2)
		Appendices J, K, L, and M

Section 6—Schedule

The activities documented in this MAS shall be completed in accordance with the project schedule shown in Table 6-1. If changes to this schedule are required, the responsible Mapping Partner shall coordinate with FEMA and the other Mapping Partners in a timely manner.

Table 6-1. Project Schedule

ACTIVITIES	RESPONSIBLE PARTNER(S)	DATE DUE
Activity 1 – Pre-Scoping	CWCB, FEMA/NSP	4/30/06
Activity 2 – Scoping	CWCB, FEMA/NSP	9/30/06
Activity 3 – Field Surveys and Reconnaissance	CWCB	
Activity 4 – Topographic Data Development	CWCB	
Activity 5 – Independent QA/QC Review of Topographic Data	FEMA/NSP	
Activity 6 – Hydrologic Analyses	CWCB	
Activity 7 – Independent QA/QC Review of Hydrologic Analyses	FEMA/NSP	
Activity 8 – Hydraulic Analyses	CWCB	
Activity 9 – Independent QA/QC Review of Hydraulic Analyses	FEMA/NSP	
Activity 10 – Floodplain Mapping (Detailed Riverine or Coastal Analysis)	CWCB	
Activity 10A – Floodplain Mapping (Redelineation Using Effective Flood Profiles and Updated Topographic Data)	CWCB	
Activity 10B – Floodplain Mapping (Refinement or Creation of Zone A)	CWCB	
Activity 11 – Independent QA/QC Review of Floodplain Mapping (Revised Areas)	FEMA/NSP	
Activity 12 – Base Map Acquisition	CWCB	
Activity 13 – DFIRM Production (Non-Revised Areas)	CWCB	
Activity 13A – Independent QA/QC Review of DFIRM Production (Non-Revised Areas)	FEMA/NSP	
Activity 14 – DFIRM Production (Merging Revised and Non-Revised Information)	CWCB	
Activity 14A – DFIRM Production (Application of DFIRM Graphics	CWCB	

ACTIVITIES	RESPONSIBLE PARTNER(S)	DATE DUE
and Database Specifications)		
Activity 14B – Independent QA/QC Review of DFIRM Product Meeting FEMA Graphics and Database Specifications	FEMA/NSP	
Activity 15 – Preliminary DFIRM and FIS Report Distribution	CWCB, FEMA/NSP	
Activity 16 – Post-Preliminary Processing	CWCB, FEMA/NSP	
Activity 17 – Outreach	CWCB	ongoing

Section 7—Certifications

The following certifications apply to this MAS:

Activity 3 (Field Surveys and Reconnaissance) and Activity 4 (Topographic Data Development)

A Registered Professional Engineer or Licensed Land Surveyor shall certify topographic data, in accordance with 44 CFR 65.5(c). Certification of topographic data by the American Society for Photogrammetry and Remote Sensing is also acceptable.

Activity 6 (Hydrologic Analyses). Activity 8 (Hydraulic Analyses), Activity 10 (Floodplain Mapping– Detailed Riverine or Coastal Analysis), Activity 10A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Activity 10B (Floodplain Mapping {Refinement or Creation of Zone A})

- A Registered Professional Engineer shall certify hydrologic and hydraulic analyses and data in accordance with 44 CFR 65.6(f);
- A Registered Professional Engineer or Licensed Land Surveyor shall certify topographic information in accordance with 44 CFR 65.5(c); and
- Any levee systems to be accredited will be certified in accordance with 44 CFR 65.10(e).

Activity 10 (Floodplain Mapping– Detailed Riverine or Coastal Analysis), Activity 10A (Floodplain Mapping {Redelineation Using Effective Flood Profiles and Updated Topographic Data}), and Activity 10B (Floodplain Mapping {Refinement or Creation of Zone A}), Activity 11 (Independent QA/QC Review of Floodplain Mapping {Revised Areas}), Activity 13 (DFIRM Production {Non-Revised Areas}), Activity 14 (DFIRM Production {Merging Revised and Non-Revised Information}), and Activity 14A (DFIRM Production {Application of FEMA Graphics and Database Specifications})

The DFIRM metadata files shall include a description of the horizontal and vertical accuracy of the DFIRM base map and floodplain information.

Activity 12 (Base Map Acquisition and Preparation)

- A community official or responsible party shall provide written certification that the digital data meet FEMA minimum standards and specifications.
- The responsible Mapping Partner shall provide documentation that the digital base map can be used by FEMA. Please note that uploading base map data to the MIP does not constitute

agreement that the digital base map can be used by FEMA. Documentation that the digital base map can be used by FEMA will still be required.

Certifications must be made at the time the intermediate data is submitted. For example, if hydrologic data is submitted, certification will be required at the time it is submitted.

Section 8—Technical Assistance and Resources

Project Team members may obtain copies of FEMA-issued LOMCs, archived engineering backup data, and data collected as part of the FEMA Mapping Needs Assessment Process from the NSP, who may be contacted by telephone at 720-514-1110 or by facsimile at 720-514-1120.

General technical and programmatic information, such as FEMA 265 and the Quick-2 computer program, can be downloaded from the FEMA Web site (http://www.fema.gov/fhm/). Specific technical and programmatic support may be provided through the NSP; such assistance should be requested through the FEMA Project Officer specified in Section 11 of this MAS.

Project Team members also may consult with the FEMA Regional Project Officer to request support in the areas of selection of data sources, digital data accuracy standards, assessment of vertical data accuracy, data collection methods or subcontractors, and GIS-based engineering and modeling training.

Section 9—Contractors

CWCB intends to use the services of PBS&J, Anderson Consulting Engineers, and/or AMEC as a contractor for the Flood Map Project documented in this MAS. CWCB shall ensure that the procurement for all contractors used for this Flood Map Project complies with the requirements of 44 CFR 13.36.

Part 13 may be downloaded in PDF or text format from the U.S. Government Printing Office Web site at http://www.access.gpo.gov/nara/cfr/waisidx_02/44cfr13_02.html.

Section 10—Financial Reporting

Because funding has been provided to CWCB by FEMA for the Flood Map Project documented in this MAS, financial reporting requirements for CWCB will be in accordance with Cooperative Agreement Articles V and VI.

CWCB will meet with the NSP and/or FEMA *as needed* to review the progress of the project. These meetings will alternate between FEMA's Regional Office and the CWCB office.

CWCB will provide to the NSP regular updates for each of the mapping activity statements. This may, at FEMA's discretion be a spreadsheet template to be completed or the Monitoring Information on Contracted Studies (MICS) system may be used. It may include dollars spent, hours spent, and percent complete of each major Flood Map Project activity (e.g., field survey, terrain, hydrology) on a county basis. Specific reporting requirements will be finalized as a part of the scoping meeting.

Section 11—Points of Contact

The points of contact for this Flood Map Project are Dan Carlson, the FEMA Regional Project Officer; Karen Price, the Colorado Map Mod Coordinator for the CWCB; or subsequent personnel of comparable

experience who are appointed to fulfill these responsibilities. When necessary, the assistance of the NSP should be requested through the FEMA Project Officer, Kevin Long.

In addition, the NSP is required to coordinate project issues with the responsible Mapping Partner that created the MAS deliverable or portions of the MAS deliverable product and will document all such coordination activities with the CTP and FEMA.

Section 12—Project Coordination

Throughout the project, all members of the Project Team will coordinate, as necessary, to ensure the products meet the technical and format specifications required and contain accurate, up-to-date information. Coordination activities may include:

- Meetings, teleconferences, and videoconferences with FEMA and other Project Team members *as needed*;
- Telephone conversations with FEMA and other Project Team members *as needed*;
- Updates to the MICS, MNUSS database, and other FEMA status information systems in accordance with requirements in Volumes 1 and 3 of *Guidelines and Specifications for Flood Hazard Mapping Partners*; and
- E-mail, facsimile transmissions, and letters, as required.

Each party has caused this MAS to be executed by its duly authorized representative.

Rod Kuharich
Director
Colorado Water Conservation Board

Date

Karen Amrhein Price

September 8, 2005

Karen Amrhein Price
Colorado Map Mod Coordinator
Project Manager
Colorado Water Conservation Board

Date

Dan Carlson

9/9/05

Robert Ives FO
HIRA Branch Chief
Federal Emergency Management Agency, Region VII

Date

9/9/05

Dave Jula
Michael Baker Jr., Inc.
National Service Provider

Date

Each party has caused this MAS to be executed by its duly authorized representative.

Rod Kuharich

Director
Colorado Water Conservation Board

9/8/05

Date

Karen Amrhein Price

September 8, 2005

Karen Amrhein Price
Colorado Map Mod Coordinator
Project Manager
Colorado Water Conservation Board

Date

Robert Ives

HIRA Branch Chief
Federal Emergency Management Agency, Region VII

Date

Dave Jula

Michael Baker Jr., Inc.
National Service Provider

Date